

TMU24V009ASXXXA

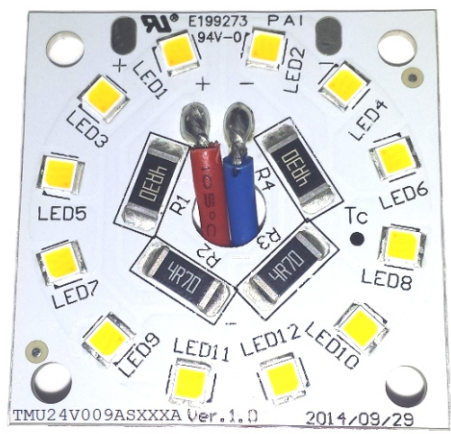
Constant Voltage LED Square Module

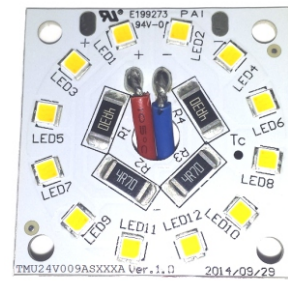
- High Density, high brightness chip array for use in Class 2 applications
- Constant voltage input for optimum efficacy
- Available in standard CCT's
- Dimmable when used with a dimmable driver
- Suitable for DLC and Energy Star compliance luminaires
- 80 CRI standard and 90 CRI available

General Ratings

Max Lumen Output @ Input Voltage	750 lumens at 4000K / 80 CRI*
Input Voltage	24V DC
Nominal DC Power Consumption	8.4W
Beam Angle	120°
CRI	80, 90
Operating Ambient Temperature Range (Ta)	-35 to +40°C / -31 to +104°F
Maximum Module Case Temperature (Tc)	+90°C
Estimated Lumen Maintenance (L70)	>50,000 hours at max Tc
Color Consistency	Binning per ANSI C78.377-2008; 7 SDCM
Overall Size	1.6" x 1.6" x 0.17"H
Material / Weight	MCPCB / 13g
Maximum Screw Installation Torque	35 inch - ounces
Safety/Compliance	cURus (File # E351548) Class 2 Lighting System RoHS Compliant
Warranty	5 years with suitable Fulham LED Drivers

* At Tc mod = 25°C





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Part Numbering Matrix

T M U 24V 009 A S 8 27 A

CRI	Color Temperature
8* = 80	27 = 2700K
9 = 90	30* = 3000K
	35 = 3500K
	40* = 4000K
	50 = 5000K

*Indicates standard module options. All others are built to order.

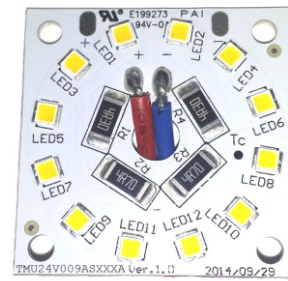
Electrical Specifications

LED Module Part Number	Number of LED	Input Voltage	Nom. Rated Power
TMU24V009ASxxxA	12	24VDC	8.4W

Electrical and Optical Specifications

LED Module Part Number	Color Temperature	Nominal Luminous Flux @ 90CRI	Nominal Luminous Flux @ 80CRI	Efficacy @80 CRI
TMU24V009ASx27A	2700K	515 lumens	650 lumens	77 lm/W
TMU24V009ASx30A	3000K	560 lumens	695 lumens	82 lm/W
TMU24V009ASx35A	3500K	585 lumens	720 lumens	85 lm/W
TMU24V009ASx40A	4000K	600 lumens	750 lumens	89 lm/W
TMU24V009ASx50A	5000K	645 lumens	800 lumens	95 lm/W

- 1) Electrical and optical specifications are based on Tc mod = 25°C.
- 2) Standard lumen output and efficacy is calculated for standard options. Reference CCT vs Lumen Output chart for lumen ratio calculation.
- 3) Specifications are subject to change without notice.

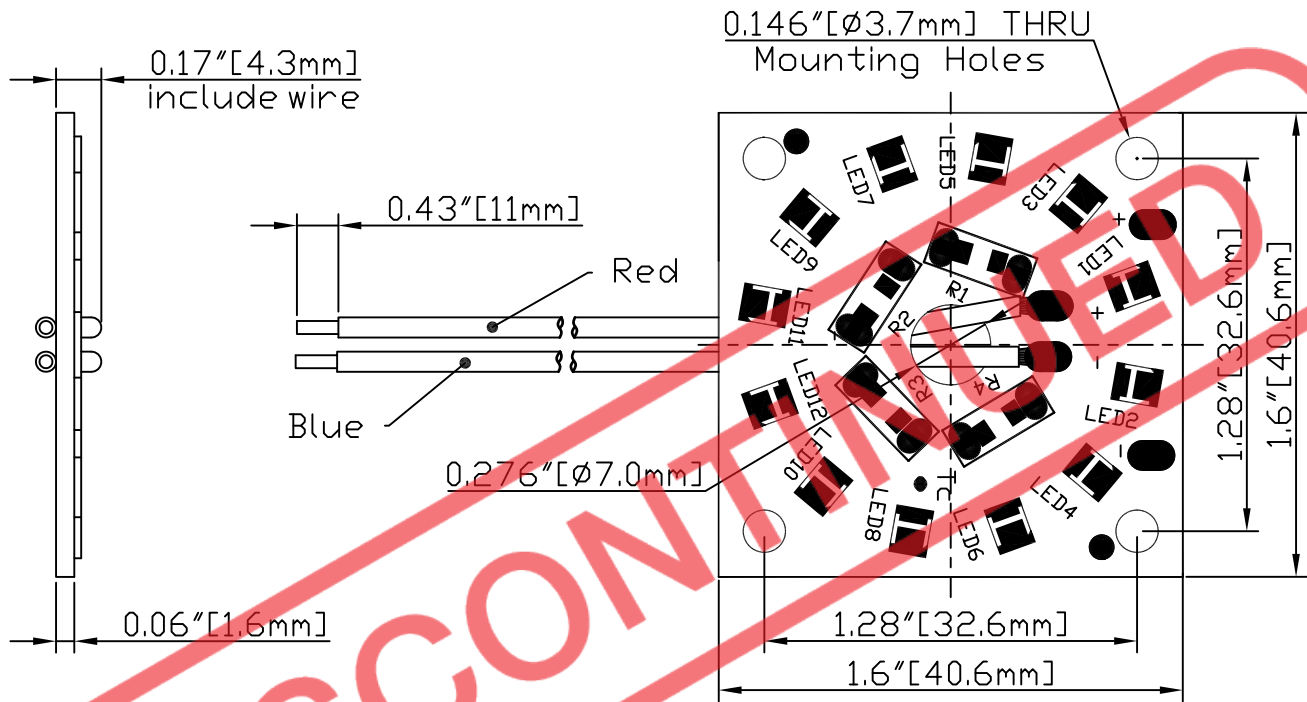


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Mechanical Drawings

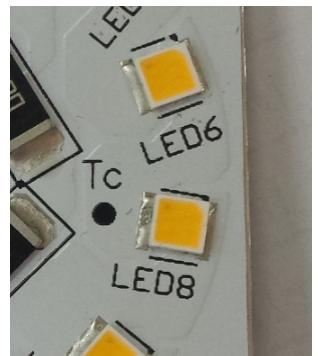
Wire Length - Inches

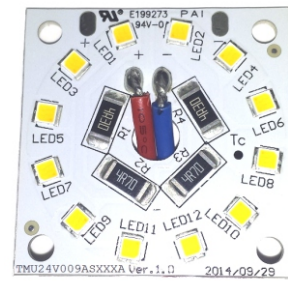
DC Input - Red (+) / Blue (-)	8
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Thermal Specifications

	LED Module
Storage Temperature Range	-35 to 100°C
Operating Ambient Temperature Range	-35 to 40°C
Maximum Case Temperature (Tc)	90°C





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Fastening Notes

- If fastening by screw hole, use any screw with diameter less than 0.145 in (3.7mm). Use all available screw holes to ensure good contact between back side of module and mounting surface. Refer to max specified torque for installation. Suggested screw sizes: #6 or M3.5 Pan Head screw.
- If fastening using double-sided tape, start with clean, dust-free surface. Peel backing and place LED module on mounting surface. Firmly press down on the module to ensure good adherence. Follow the double-side tape manufacturer's installation instructions.

Environmental Rating

- Modules are rated for dry locations, unless option for conformal coating is requested.
- Conformal coating is acrylic based and rated for Environment and Moisture Protection per IPC-CC-830.

Electrostatic Sensitive Product (ESD)

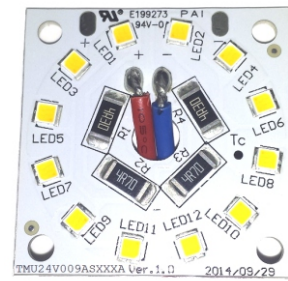
- Fulham LED products should be handled with proper measures to protect against any potential ESD damage.
- When servicing, personnel should be ground and direct contact with LED should be avoided.

Thermal Management

- Proper thermal management should be employed to ensure life and reliability of product.
- Use of thermal grease, paste, pad, or other material interface is highly recommended.

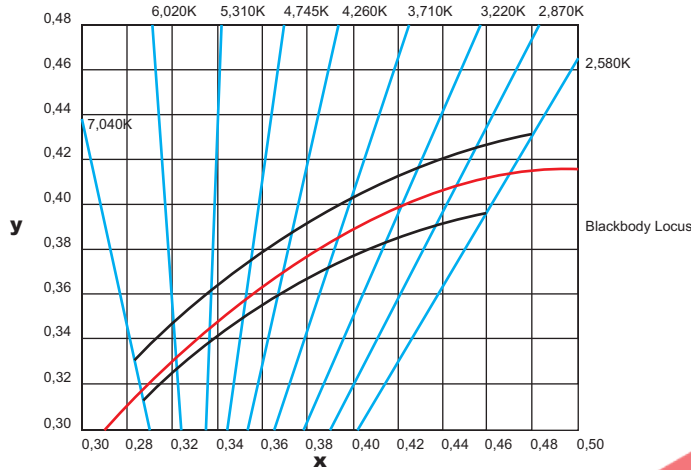
Polarity Notes

- Modules are polarity sensitive.
- Ensure that "positive" from LED Driver is connected to "positive" of LED modules and that "negative" from LED Driver is connected to "negative" of LED modules.
- Polarities of modules are marked with "+" for positive and "-" for negative.



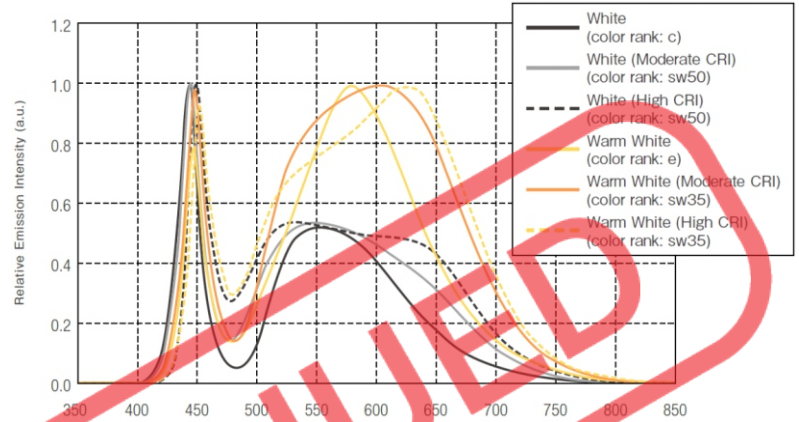
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Color and Binning



Ref. Nichia
Chromaticity Diagram for ANSI bins
For reference only. For more detailed info, contact factory.

Optical Spectrum***



*** Value varies depending on product type and color rank
Ref. Nichia
LED Catalogue 2013
For reference only. For more detailed info, contact factory.

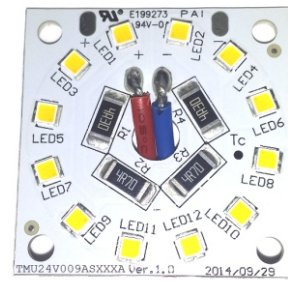
Thermal De-Rating

Ambient Temperature (Ta)	Thermal De-rating Multiplier
25°C	1
30°C	0.991
35°C	0.989
40°C	0.980
45°C	0.975
50°C	0.970
55°C	0.960
60°C	0.950

Ref. Nichia
LED757 Spec Sheet
For reference only. For more detailed info, contact factory.

CCT vs Luminous Flux

CCT	Luminous Flux Ratio
2700K	0.87
3000K	0.93
3500K	0.96
4000K	1.00
5000K	1.07



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Compatible Fulham LED Drivers

Fulham Part Number	Driver Description	# of Modules/Driver	Wiring Diagram
T1UNV024V-20L	24V, 20W CV Driver, Universal Input	1, 2	A, C
T1UNV024V-60L	24V, 60W CV Driver, Universal Input	1 ~ 6	A, C
T1UNV024V-75L	24V, 75W CV Driver, Universal Input	1 ~ 8	A, C
T1UNV024V-100LE	24V, 100W CV Driver, Universal Input	1 ~ 11	A, C
T1UNV024V-100LS	24V, 100W CV Driver, Universal Input	1 ~ 11	A, C
T1M1UNV024V-20L	24V, 20W CV Driver, Universal Input, 0-10V Dimmable	1, 2	A, C
T1M1UNV024V-60L	24V, 60W CV Driver, Universal Input, 0-10V Dimmable	1 ~ 6	A, C
T1M1UNV024V-75L	24V, 75W CV Driver, Universal Input, 0-10V Dimmable	1 ~ 8	A, C



NOTE:
 1. Subject to rated loading conditions.
 2. Modules are polarity sensitive. Ensure that "positive" from LED Driver is connected to "positive" of LED modules and that "negative" from LED Driver is connected to "negative" of LED modules.
 3. List is subject to change without notice.

Wiring Diagram

